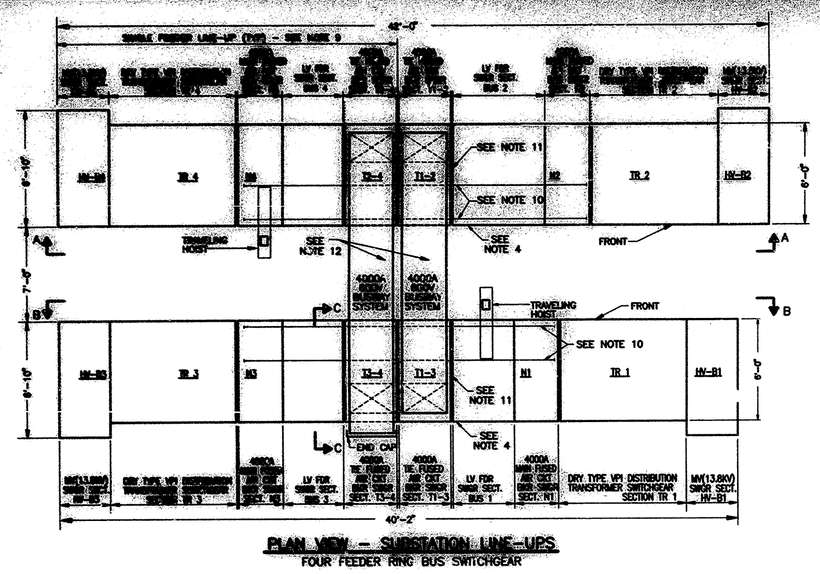
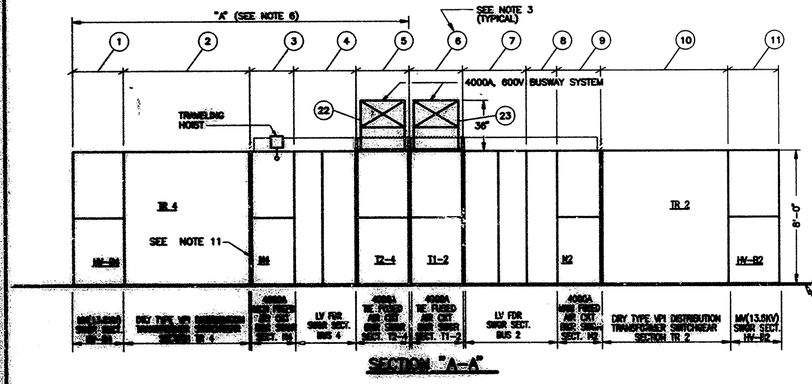
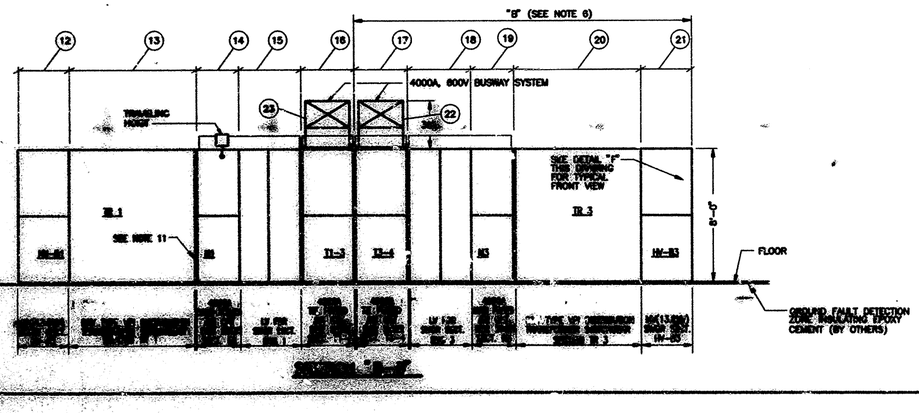


PLAN VIEW – SUBSTATION LINE-UPS
FOUR FEEDER RING BUS SWITCHGEAR



SECTION "A-A"



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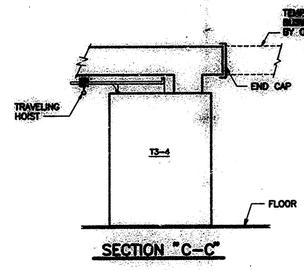
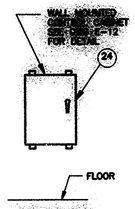
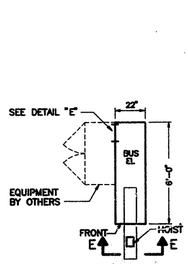


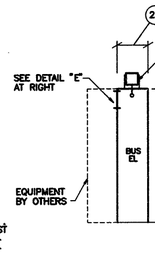
SECTION "C-C"



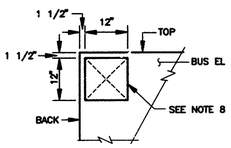
FRONT VIEW
LOCAL CONTROL CABINET



PLAN VIEW



SECTION "E-E"



DETAIL "E"
N.T.S.

LOW VOLTAGE FEEDER SWITCHGEAR SECTION BUS EL

NOTES:

1 – SEE [illegible] OF EQUIPMENT. SEE DRAWING E-1.

2 – ALL DIMENSIONS ARE MINIMUM ALLOWABLE AND SHALL NOT BE EXCEEDED.

3 – [illegible] SHALL BE DIVIDED INTO SEPARATE SHIPPING SECTIONS [illegible] 4'-0" WIDE [illegible]

a – [illegible]

b – BUSWAY SHIPPING LENGTH SHALL NOT EXCEED 8'-0".

c – ALL EQUIPMENT SHIPPED SECTIONS MUST FIT ON W.T.C. ELEVATORS. SEE DRAWING E-12 FOR W.T.C. ELEVATOR DIMENSIONS.

d – PACKAGING TAG FOR EACH SHIPPING SECTION SHALL INCLUDE SUBSTATION NUMBER (e.g. (1) – SS TOR.)

e – THE VENDOR SHALL DISASSEMBLE THE DRY TYPE VPI DISTRIBUTION TRANSFORMER SWITCHGEAR SECTION FABRICATED BY THE TRANSFORMER MANUFACTURER AND PREPARE SHIPPING SECTION FOR THE WEIGHT AND DIMENSIONS LIMITATIONS INDICATED HEREIN.

4 – FOR DETAILS OF LOW VOLTAGE FEEDER SWITCHGEAR SECTION BUSES 1, 2, 3, 4 AND BUS EL SEE DRAWINGS E-8 THRU E-11.

5 – ALL OUTGOING WIRING, CONTROL, ALARM & INDICATION CONTACTS SHALL BE WIRED TO TERMINAL BLOCKS WITHIN EACH SHIPPING SECTION. (PROVIDE 20% SPARE TERMINAL POINTS PER STRIP FOR FUTURE USE, MINIMUM 6 SPARE POINTS)

6 – DIMENSION "A" MUST BE THE SAME AS DIMENSION "B".

7 – NOT USED

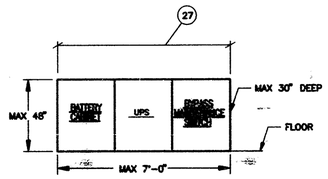
8 – AREA ON TOP SIDE OF SWITCHGEAR BUS EL. SHOWN IN DETAIL "E" THIS DWG. SHALL BE KEPT CLEAR FOR INCOMING FEEDER CONDUITS INSTALLED BY OTHERS

9 – EACH SUBSTATION LINE-UP SHALL BE MANUFACTURED IN SUCH A MANNER AS TO PERMIT THE INSTALLATION AND ENERGIZATION IN TWO STAGES (APPROX. 3 MONTHS APART). THE SINGLE FEEDER LINEUPS CONSISTING OF EQUIPMENT SHOWN ON THIS DRAWING IN "PLAN VIEW-SUBSTATION LINE-UPS" AND ASSOCIATED WITH LOW VOLTAGE FEEDER SWITCHGEAR SECTIONS BUS #3 AND BUS #4 WILL BE INSTALLED FIRST. PROVIDE TEMPORARY SHEET STEEL PLATES TO COVER THE SIDES OF SWITCHGEAR WHICH WILL REMAIN EXPOSED DURING THE STAGING PERIOD; IN ADDITION PROVIDE TEMPORARY WIRING IN CONTROL CIRCUITS TO ENERGIZE THE LINE-UPS IN THE AFOREMENTIONED STAGES.

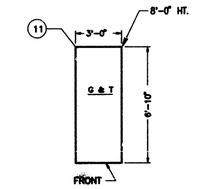
10 – SPLIT & SEPARATE TRAVELLING HOIST RAIL BETWEEN GROUND ZONES TO MAINTAIN ZONE GROUND INTEGRITY.

11– GROUND FAULT DETECTION ZONE INSULATION MATERIAL BETWEEN EQUIPMENT SEE SPECIFICATION AND DRAWINGS E-4 AND E-5 FOR DETAILS. (TYPICAL)

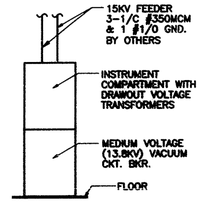
12– PROVIDE TRANSPOSITION PHASE FITTING IN BUSWAY SYSTEM IN ORDER TO MAINTAIN PROPER PHASE ARRANGEMENT OF SWGR LINE-UPS FACING EACH OTHER.



FRONT VIEW
UNINTERRUPTIBLE POWER SUPPLY
N.T.S.



PLAN VIEW
GROUND & TEST DEVICE AND HOUSING



FRONT VIEW
DETAIL "F"
MEDIUM VOLTAGE (13.8KV) SWITCHGEAR SECTION HV-B

0 2 4 6 8
SCALE IN FEET

Sheet 4 Of 15

[redacted]
OF NY & NJ

[redacted]
ENGINEERING PROGRAM MANAGER
WORLD TRADE

[redacted]
CHIEF ELECTRICAL ENGINEER

Engineering Department
Design Divisions

The World Trade Center Electrical/HVAC Upgrade Program

Title

ELECTRICAL SUBSTATION EQUIPMENT TOWER ONE AND TWO

ELECTRICAL

TYPICAL SUBSTATION PLANS AND SECTIONS

No.	Date	Revision	Approved

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

FISCHER	LEAHY	[illegible]
Designed by	Drawn by	Checked by

Date FEB 10, 1995 Scale AS NOTED

Contract Number WTC-802.072A Drawing Number E-3

FILE NAME: 80272A05 FEB. 10, 1995